



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

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July 1, 2013

Michael Rojo  
Environmental Services, Supervisor  
NV Energy  
PO Box 279, MS 77  
501 Wally Kay Drive  
Moapa, NV 89025

Re: **NV Energy (NVE)**  
**Reid Gardner Station (RGS)**  
**NDEP Facility ID #H-000530**  
Nevada Division of Environmental Protection (NDEP) response to responses to  
comments re: *Revised Diesel Remediation System Design Work Plan (DRS Work Plan)*.  
Prepared by Broadbent, Dated: June 11, 2013

Dear Mr. Rojo:

The NDEP has received and reviewed NVE's above-identified document dated June 11, 2013 and the associated responses to NDEP comments dated May 15, 2013. The subject document contains a description of a proposed diesel remediation system. The comments listed in Attachment A were discussed at the June 26, 2013 Reid Gardner Generating Station AOC meeting held in Las Vegas, Nevada. NDEP questions and concerns were discussed. Please review the additional comments from NDEP, included in Attachment A, and incorporate them into a Final Work Plan.

Upon incorporation of the information requested in the Attachment A, the NDEP concurs with the work plan for the diesel remediation system. Please contact the undersigned with any questions or comments about this letter at (775) 687-9396 or [aoakley@ndep.nv.gov](mailto:aoakley@ndep.nv.gov)

Sincerely,

Alison Oakley, CEM  
Environmental Scientist III  
Bureau of Corrective Actions  
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Fax: 775-687-8335



cc: Greg Lovato, Bureau of Corrective Actions, NDEP  
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cc (with attachment):

William Anderson, Moapa Band of Paiutes, Chairperson, P.O. Box 340, Moapa, NV 89025  
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## ATTACHMENT A

In general, the DRS Work Plan is conceptual and generalized. NDEP understands that NVE wishes to expedite product recovery and offers additional comments to support the conceptual design.

### General Comments

1. (NDEP Original Comment) The DRS Work Plan states: *"the modified dual extraction system is operating reliably and has exhibited an excellent percentage of operational time"*. Operational time is an important consideration; however, reuse of existing equipment should not overlook the overall remedial objective of the system. The DRS Work Plan should include a discussion of the objectives of the system.

**NVE Response:** The objective of the interim groundwater remediation system is to remove Light Non-Aqueous Phase Liquid (LNAPL) from the subsurface in the vicinity of the above ground storage tanks, former underground storage tanks, and associated piping using existing infrastructure until such time that new infrastructure can be purchased and installed. The text of the DRS Work Plan has been revised accordingly.

***NDEP Additional Comment:*** *Based on the limited response to this comment and other comments made by NDEP, it appears that the DRS Work Plan is essentially an upgrade of the existing recovery system that is primarily focused on treatment effectiveness versus remedial effectiveness. The administrative record may be clearer if the subject document is renamed "Interim Diesel Remediation System Design Work Plan".*

2. (NDEP Original Comment) The *Draft Preliminary Source Area Identification and Characterization Report (PSAICR)*, dated November 2012 identified the potential presence of chlorinated solvents in the area of HM-50(R). The DRS Work Plan should address if any potential exists for free product to be contaminated with spent solvents and the potential implications associated with the permit, monitoring (compounds of concern, influent, effluent, etc.), and disposition of the collected product.

**NVE Response:** Dissolved chlorinated solvents were observed to be present in groundwater collected from wells HM-48 and HM-50R prior to the observation of free product in these wells in September of 2011. As a result, the potential for spent solvents to be extracted from the wells exists. From the standpoint of the remediation system, spent solvents will be absorbed by the carbon treatment, but monitoring for VOCs should likely be added to the sampling of the influent to the carbon treatment, of the water between carbon units, and of the effluent to the system. It is not anticipated that a modest amount of dissolved solvent from groundwater should affect the disposal of the collected product.

***NDEP Additional Comment:*** *Spent solvents are typically considered hazardous wastes and if the product contains spent solvent there may be a hazardous waste issue with the removed product and affected carbon canisters. This possibility should be incorporated into the Work Plan or Operations and Maintenance Plan documentation.*

3. The Draft PSAICR identified the potential presence of gasoline in the area of HM-50(R). The DRS Work Plan should consider potential implications, if any, associated with co-mingled free product.

**NVE Response:** Since the existing groundwater remediation system is designed to address both free phase and dissolved petroleum hydrocarbons, it is not anticipated that the potential presence of gasoline in well HM-50(R) would be problematic.

4. The “stinger” design for product extraction may result in emulsified product that is less effectively separated in the oil water separator (OWS). This has been a problem for the existing OWS. Further consideration of the extraction method and OWS effectiveness is warranted.

**NVE Response:** NV Energy is aware of the NDEP's concerns regarding this issue. However, it should be noted that this is an interim groundwater remediation system. NV Energy may elect to replace the stingers with pumps in the future in the event that oil in the groundwater (due to insufficient separation) exhausts the carbon treatment at an undesirable rate.

***NDEP Additional Comment:*** *The administrative record may be clearer if the subject document includes the word interim or upgrade in the document title. (See General Comment 1)*

5. NDEP understands that the DRS Work Plan is essentially a conceptual design; however, the following items should be considered as part of the upcoming detailed DRS design:

- overflow protection for all open top vessels;

**NVE Response:** NV Energy has reconsidered the use of open-top vessels and, as a result, they are not currently a part of the remediation system design.

- secondary overflow protection (shut-off switch) for the secondary containment pad;

**NVE Response:** Secondary overflow protection for the secondary containment pad seems like it might be a redundancy; however, NV Energy will consider whether this safeguard is necessary.

- conduit for the product hose proposed in the trench to HM-48 and HM-50R;

**NVE Response:** A conduit for the product hose in the trench to wells HM-48 and HM-50R is included in the current design.

***NDEP Additional Comment:*** *As per discussion at the June 26 AOC meeting regarding immediately incorporating wells HM-48 and HM-50 into the active product removal system, the NDEP recommends evaluating if these wells (or their replacement wells) will produce sufficient quantities of free product from the surrounding aquifer to justify the expense of mechanized removal. If the evaluation demonstrates that the quantity of free product can be pumped, hooking up to the current system is requested. Otherwise, continued bailing of the wells may be preferred at the current time.*

- breakthrough monitoring for the GAC vessels;

**NVE Response:** The schedule for breakthrough monitoring for the GAC vessels will be included in the Operations & Maintenance (O&M) Manual when it is produced.

- operations and maintenance (O&M) manual and proposed periodic maintenance schedule; and

**NVE Response:** The O&M Manual, which will include the periodic maintenance schedule, will be provided once the system design has been approved.

- startup procedures and initial O&M schedule

**NVE Response:** Startup procedures and the initial O&M schedule will be provided once the system design has been approved.

6. Please include maps showing the historical maximum and current known extent of LNAPL with the proposed extraction well network (see General Comment #1).

**NVE Response:** Figure A-17, attached, was produced by Stanley Consultants and is believed to represent the maximum historical extent of LNAPL at the Property using 2003 data. Figure 10, also attached, was produced by Stanley Consultants for the 2013 semi-annual groundwater report, and is believed to represent the current extent of LNAPL at the Property.

***NDEP Additional Comment:** Based on discussions at the June AOC meeting, the NDEP has agreed that a product thickness (contour type) map does not have to be included in the work plan because the data set for product thickness spans a more than 20 year period. A data table listing the maximum product detected in monitoring wells will be included. The NDEP requests that a historical maximum product extent map and a current product thickness contour map be developed for the final Work Plan.*

7. In addition to the proposed trench and piping that will connect the extraction wells to the treatment system, please include the location existing dual phase well extraction system trench and piping that connects the existing extraction wells to the treatment system on Drawing 1.

**NVE Response:** Figure A-17, attached, shows the location of the existing dual phase well extraction system trenches / piping runs.

***NDEP Additional Comment:** NDEP would like a drawing of the revised system included in the Operations and Maintenance manual.*

8. Please include a description of the planned disposition of the collected product (see General Comments #2 and #3).

**NVE Response:** The collected free product will be disposed in accordance with applicable regulations pending characterization of the waste.

9. Please provide the rationale for the proposed use of passive devices for free product recovery in HM-20 and HM-21. Also, please include a figure with these wells in the DRS Work Plan.

**NVE Response:** Passive devices for free product recovery from HM-20 and HM-21 have been components of the overall remediation system since its installation in October of 2003. However, although the work plan mistakenly included HM-21 as a passive recovery well currently in use, passive recovery from HM-21 has not occurred in this well since it went dry in 2009. The work plan should have noted that HM-20 and HR-2 are currently operating as passive recovery wells. The text of the DRS Work Plan has been revised accordingly.

The rationale for the use of passive recovery devices in HM-20 and HR-2 (and formerly HM-21) was/is to remove product from wells that are not currently connected to the existing dual phase extraction system. ~ , \_

Stanley Consultants' Figure A-17, attached, depicts the locations of wells HM-2, HM-20, and HM-21.